Page 1 of 1 Applicant(s) Application No. Joseph A. Zupanick 10/749.884 **Group Art Unit** Filing Date **Docket Number** information Disclosure Citation 067083.0287 December 31, 2003 in an Application **U.S. PATENT DOCUMENTS** SUBCLASS FILING DATE **CLASS** NAME DOCUMENT NO. DATE N/A 02/05/1923 J. J. Fitzpatrick N/A 1,488,106 03/25/1924 A 175 61 12/31/1979 В 4,333,539 06/08/1992 Lyons et al. 08/06/1993 LeBlanc et al. 166 265 Ċ 05/02/1995 5,411,088 105.5 05/12/1995 D 5,653,286 08/05/1997 McCoy et al. 166 04/03/1996 166 98 E 5,775,433 07/07/1998 Hammett et al. 07/31/1998 105.5 01/30/2001 Stewart 166 F 6,179,054 09/27/1999 369 03/19/2002 Kennedy et al. 166 G 6,357,530 FOREIGN PATENT DOCUMENTS TRANSLATION COUNTRY CLASS SUB YES NO DOCUMENT NO. DATE 5/00-F 7/00 E21F Н SU-1448078-A1 03/25/1987 Russia W) E21F 7/00 X SU-1770570-A1 03/30/1990 Russia E21C 45/00 X SU-750108 06/26/1975 Russia J 27/24 X 08/13/1998 PCT E21C WO 98/35133 K 43/38  $\overline{\mathbf{x}}$ PCT E21B L WO 01/44620 06/21/2001  $\overline{\mathbf{x}}$ B04B 11/02 M GB 2 255 033 10/28/1992 Great Britain 21/24  $\overline{\mathbf{x}}$ Canada E21C 01/13/1998 N CA 2 278 735

## **NON-PATENT DOCUMENTS**

Germany

|     |   | DOCUMENT (Including Author, Title, Source, and Pertinent Pages)  | DATE             |
|-----|---|--|------------------|
| R   | P | Notification of Transmittal of the International Search Report or the Declaration (PCT Rule 44.1) mailed February 9, 2004 (6 pages) re International Application No. PCT/US 03/28138.  | 09/09/2003       |
| 1   | Q | Notification of Transmittal of the International Search Report or the Declaration (PCT Rule 44.1) mailed February 27, 2004 (9 pages) re International Application No. PCT/US 03/30126. | 09/23/2003       |
|     | R | Fletcher, "Anadarko Cuts Gas Route Under Canadian River Gorge," Oil and Gas Journal, pp. 28-30   | January 25, 2004 |
| 1   | S | Translation of selected pages of Kalinin, et al., "Drilling Inclined and Horizontal Well Bores," Nedra Publishers, Moscow, 1997, 15 pages  | 1997             |
| DPS | T | Translation of selected pages of Arens, V.Zh., "Well-Drilling Recovery of Minerals,"  Geotechnology, Nedra Publishers, Moscow, 7 pages, 1986   | 1986             |

EXAMINER DATE CONSIDERED 8/19/09

01/15/1986

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

U.S. Patent and Trademark Office

43/24

E21B

X

0

CH 653 741

| •        |        |                                   |            |                              |                              |                         | Page 1 of 12 |
|----------|--------|-----------------------------------|------------|------------------------------|------------------------------|-------------------------|--------------|
|          | 5-1449 |                                   | Citatian   | Application No. Unassigned   | Applicant(s) Joseph A. Zup   | anick                   |              |
| Į.       | ntorn  | nation Disclosu<br>in an Applicat |            | Docket Number<br>067083.0287 | Group Art Unit<br>Unassigned | Filing Date<br>December | 31, 2003     |
|          |        |                                   |            | U.S. PATENT DOCUME           | NTS                          |                         |              |
|          |        | DOCUMENT NO.                      | DATE       | NAME                         | CLASS                        | SUBCLASS                | FILING DATE  |
| 793      | A.     | 54,144                            | 04/24/1866 | Hamar                        |                              |                         |              |
| 1        | В.     | 274,740                           | 03/27/1883 | Douglass                     |                              |                         | 12/02/1892   |
|          | C.     | 526,708                           | 10/02/1894 | Horton                       |                              |                         | 09/01/1893   |
| $\vdash$ | D.     | 639,036                           | 12/12/1899 | Heald                        |                              |                         | 08/21/1899   |
|          | E.     | 1,189,560                         | 07/04/1916 | Gondos                       |                              |                         | 10/21/1914   |
| $\Box$   | F.     | 1,285,347                         | 11/19/1918 | Otto                         |                              |                         | 02/09/1918   |
|          | G.     | 1,467,480                         | 09/11/1923 | Hogue                        |                              |                         | 12/19/1921   |
| $\Box$   | н.     | 1,485,615                         | 03/04/1924 | Jones                        |                              |                         | 12/08/1920   |
|          | 1.     | 1,674,392                         | 06/19/1928 | Flansburg                    |                              |                         | 08/06/1927   |
|          | J.     | 1,777,961                         | 10/07/1930 | Capeliuschnicoff             |                              |                         | 04/04/1927   |
|          | K.     | 2,018,285                         | 10/22/1935 | Schweitzer et al.            | 166                          | 21                      | 11/27/1934 : |
|          | L.     | 2,069,482                         | 02/02/1937 | Seay                         | 255                          | 76                      | 04/18/1935   |
| $\top$   | M.     | 2,150,228                         | 03/14/1939 | Lamb                         | 166                          | 10                      | 08/31/1936   |
|          | N.     | 2,169,718                         | 08/15/1939 | Boll et al.                  | 255                          | 24                      | 04/01/1937   |
|          | 0.     | 2,335,085                         | 11/23/1943 | Roberts                      | 251                          | 197                     | 03/18/1947   |
|          | P.     | 2,450,223                         | 09/28/1948 | Barbour                      | 255                          | 76                      | 11/25/1944   |
| $\top$   | Q.     | 2,490,350                         | 12/06/1949 | Grable                       | 166                          | 4                       | 12/15/1943   |
| $\top$   | R.     | 2,679,903                         | 06/01/1954 | McGowen, Jr. et al.          | 166                          | 1                       | 11/23/1949   |
|          | S.     | 2,726,063                         | 12/06/1955 | Ragland et al.               | 255                          | 1.8                     | 05/10/1952   |
|          | T.     | 2,726,847                         | 03/31/1952 | McCune et al.                | 255                          | 1.6                     | 03/31/1952   |
| $\top$   | U.     | 2,783,018                         | 02/26/1957 | Lytle                        | 251                          | 25                      | 02/11/1955   |
| -        | V.     | 2,847,189                         | 08/12/1958 | Shook                        | 255                          | 76                      | 01/08/1953   |
|          | W.     | 2,911,008                         | 11/03/1959 | Du Bois                      | 137                          | 625.31                  | 04/09/1956   |
|          | X.     | 2,980,142                         | 04/18/1961 | Turak                        | 137                          | 637.3                   | 09/08/1958   |
| +        | Y.     | 3,347,595                         | 10/17/1967 | Dahms et al.                 | 299                          | 4                       | 05/03/1965   |
| DP5      | Z.     | 3,443,648                         | 05/13/1969 | Howard                       | 175                          | 103                     | 09/13/1967   |

EXAMINER: Initial if citation copsidered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

U.S. Patent and Trademark Office

|                   | -1449          |  |                                  | Application No. Unassigned                                | Applicant(s) Joseph A. Zup   | anick                            |                            |
|-------------------|----------------|--|----------------------------------|---|------------------------------|----------------------------------|----------------------------|
| lr                | forn           | nation Disclosu<br>in an Applicat            |                                  | Docket Number<br>067083.0287                              | Group Art Unit<br>Unassigned | Filing Date<br>December          | 31, 2003                   |
|                   |                |  |                                  | U.S. PATENT DOCUMEN                                       | ITS                          |                                  |                            |
|                   |                | DOCUMENT NO.                                 | DATE                             | NAME  | CLASS                        | SUBCLASS                         | FILING DATE                |
| 195               | A.             | 3,473,571                                    | 10/21/1969                       | Dugay   | 137                          | 625.4                            | 12/27/1967                 |
| $\overline{I}$    | B.             | 3,503,377                                    | 03/31/1970                       | Beatenbough et al.  | 123                          | 117                              | 07/30/1968                 |
| $\top$            | C.             | 3,528,516                                    | 09/15/1970                       | Brown   | 175                          | 267                              | 08/21/1968                 |
| $\top$            | D.             | 3,530,675                                    | 09/29/1970                       | Turzillo  | 61                           | 35                               | 08/26/1968                 |
| $\top$            | E.             | 3,684,041                                    | 08/15/1972                       | Kammerer, Jr. et al.                                      | 175                          | 267                              | 11/16/1970                 |
| $\top$            | F.             | 3,692,041                                    | 09/19/1972                       | Bondi   | 137                          | 238                              | 01/04/1971                 |
| $\dagger \dagger$ | G.             | 3,757,876                                    | 09/11/1973                       | Pereau  | 175                          | 267                              | 09/01/1971                 |
| +                 | Н.             | 3,757,877                                    | 09/11/1973                       | Leathers  | 175                          | 269                              | 12/30/1971                 |
| +                 | I.             | 3,800,830                                    | 04/02/1974                       | Etter   | 137                          | 625.41<br>245                    | 01/11/1973                 |
| +                 | J.             | 3,809,519                                    | 05/07/1974                       | Garner  | 425                          |                                  | 10/19/1972                 |
| +                 | K.             | 3,825,081                                    | 07/23/1974                       | McMahon   | 175                          | 73                               | 03/08/1973                 |
| +                 | L.             | 3,828,867                                    | 08/13/1974                       | Elwood  | 175                          | 45                               | 05/15/1972                 |
| +                 | M.             | 3,874,413                                    | 04/01/1975                       | Valdez  | 137                          | 625.47                           | 04/01/1975                 |
| H                 | N.             | 3,887,008                                    | 06/03/1975                       | Canfield  | 166                          | 267                              | 03/21/1974                 |
| Н                 | 0.             | 3,902,322                                    | 09/02/1975                       | Watanabe  | 61                           | 35                               | 08/27/1973                 |
| 1                 | P.             | 3,934,649                                    | 01/27/1976                       | Pasini, III et al.  | 166                          | 254                              | 07/25/1974                 |
| +                 | Q.             | 3,957,082                                    | 05/18/1976                       | Fuson et al.  | 137                          | 625.41                           | 09/26/1974                 |
| Н                 | R.             | 3,961,824                                    | 06/08/1976                       | Van Eek et al.  | 299                          | 17                               | 10/21/1974                 |
| Н                 | S.             | 4,011,890                                    | 03/15/1977                       | Andersson   | 137                          | 625.4                            | 11/04/1975                 |
| H                 | T.             | 4,022,279                                    | 05/10/1977                       | Driver  | 166                          | 271                              | 12/23/1974                 |
| Н                 | U.             | 4,030,310                                    | 06/21/1977                       | Schirtzinger  | 61                           | 86                               | 03/04/1976                 |
| $\vdash$          | V.             | 4,037,658                                    | 07/26/1977                       | Anderson  | 166                          | 272                              | 10/30/1975                 |
| $\vdash$          | W.             | 4,073,351                                    | 02/14/1978                       | Baum  | 175                          | 14                               | 06/10/1976                 |
| $\vdash$          | X.             | 4,089,374                                    | 05/16/1978                       | Тепту   | 166                          | 259                              | 12/16/1976                 |
| $\vdash$          | Ŷ.             | 4,116,012                                    | 09/26/1978                       | Abe et al.  | 405                          | 238                              | 07/14/1977                 |
| <del> </del>      | Z.             | 4,136,996                                    | 01/30/1979                       | Burns   | 405                          | 195                              | 05/23/1977                 |
| 105               | AA.            | 4,156,437//                                  | 05/29/1979                       | Chivens et al.  | 137                          | 554                              | 02/21/1978                 |
|                   | AMIN           | ER Sound                                     | I for                            |   | ONSIDERED 8/19/04            | <u></u>                          |                            |
| EX.A              | MINE<br>ion if | R: Initial if citation not in conformance an | considered, w<br>d not considere | hether or not citation is in d. Include copy of this form | conformance with I           | MPEP § 609. Discation to the app | Draw line throu<br>licant. |

| PTO               | -1449 | 1                                 |            | Application No.<br>Unassigned | Applicant(s)  Joseph A. Zup  | panick               |             |
|-------------------|-------|-----------------------------------|------------|-------------------------------|------------------------------|----------------------|-------------|
| In                | ıforn | nation Disclosu<br>in an Applicat |            | Docket Number<br>067083.0287  | Group Art Unit<br>Unassigned | Filing Date December | 31, 2003    |
|                   |       |                                   |            | U.S. PATENT DOCUME            | ENTS                         |                      |             |
|                   |       | DOCUMENT NO.                      | DATE       | NAME                          | CLASS                        | SUBCLASS             | FILING DATE |
| W                 | A.    | 4,169,510                         | 10/02/1979 | Meigs                         | 175                          | 65                   | 08/16/1977  |
| 1                 | В.    | 4,189,184                         | 02/19/1980 | Green                         | 299                          | 8                    | 10/13/1978  |
| $\sqcap$          | C.    | 4,220,203                         | 09/02/1980 | Steeman                       | 166                          | 271                  | 12/06/1978  |
| $\dagger \dagger$ | D.    | 4,221,433                         | 09/09/1980 | Jacoby                        | 299                          | 4                    | 07/20/1978  |
| $\dagger \dagger$ | E.    | 4,257,650                         | 03/24/1981 | Allen                         | 299                          | 2                    | 09/07/1978  |
| $\dagger \dagger$ | F.    | 4,278,137                         | 07/14/1981 | Van Eek, deceased             | 175                          | 267                  | 06/18/1979  |
| H                 | G.    | 4,283,088                         | 08/11/1981 | Tabakov et al.                | 299                          | 2                    | 05/14/1979  |
| $\forall$         | H.    | 4,296,785                         | 10/27/1981 | Vitello et al.                | 141                          | 105                  | 07/09/1979  |
| H                 | I.    | 4,299,295                         | 11/10/1981 | Gossard                       | 175                          | 45                   | 02/08/1980  |
| ††                | J.    | 4,303,127                         | 12/01/1981 | Freel et al.                  | 166                          | 266                  | 02/11/1980  |
| H                 | K.    | 4,305,464                         | 12/15/1981 | Masszi                        | 166                          | 370                  | 03/07/1980  |
| $\vdash$          | L.    | 4,312,377                         | 01/26/1982 | Knecht                        | 137                          | 625.19               | 08/29/1979  |
|                   | М.    | 4,317,492                         | 03/02/1982 | Summers et al.                | 175                          | 79                   | 02/26/1980  |
|                   | N.    | 4,328,577                         | 05/04/1982 | Abbott et al.                 | 370                          | 84                   | 06/03/1980  |
| $\neg$            | Ο.    | 4,366,988                         | 01/04/1983 | Bodine                        | 299                          | 14                   | 04/07/1980  |
|                   | P.    | 4,372,398                         | 02/08/1983 | Kuckes                        | 175                          | 45                   | 11/04/1980  |
|                   | Q.    | 4,386,665                         | 06/07/1983 | Dellinger                     | 175                          | 61                   | 10/27/1981  |
| $\dashv$          | R.    | 4,390,067                         | 06/28/1983 | Willman                       | 166                          | 245                  | 04/06/1981  |
|                   | S.    | 4,396,076                         | 08/02/1983 | Inoue                         | 175                          | 265                  | 04/27/1981  |
|                   | T.    | 4,397,360                         | 08/09/1983 | Schmidt                       | 175                          | 61                   | 07/06/1981  |
| $\forall$         | U.    | 4,401,171                         | 08/30/1983 | Fuchs                         | 175                          | 267                  | 12/10/1981  |
| $\vdash$          | V.    | 4,407,376                         | 10/04/1983 | Inoue                         | 175                          | 267                  | 06/26/1981  |
| H                 | W.    | 4,442,896                         | 04/17/1984 | Reale et al.                  | 166                          | 278                  | 07/21/1982  |
| +                 | X.    | 4,494,616                         | 01/22/1985 | McKee                         | 175                          | 67                   | 07/18/1983  |
| ++                | Υ.    | 4,512,422                         | 04/23/1985 | Knisley                       | 175                          | 99                   | 06/28/1983  |
| +                 | Z.    | 4,519,463                         | 05/28/1985 | Schuh                         | 175                          | 61                   | 03/19/1984  |
| +                 | AA.   | 4,527,639                         | 07/09/1985 | Dickinson, III et al.         | 175                          | 61                   | 03/02/1983  |
| 06                | BB.   | 4,532,986//                       | 08/06/1985 | Mims et al.                   | 166                          | 50                   | 05/05/1983  |

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

|                   | -1449 |                                    | 0'4-4'        | Application No. Unassigned   | Applicant(s) Joseph A. Zup   | panick                  |                 |
|-------------------|-------|------------------------------------|---------------|------------------------------|------------------------------|-------------------------|-----------------|
| lr                | nforn | nation Disclosu<br>in an Applicati |               | Docket Number<br>067083.0287 | Group Art Unit<br>Unassigned | Filing Date<br>December | 31, 2003        |
|                   |       |                                    |               | U.S. PATENT DOCUM            | ENTS                         |                         |                 |
|                   |       | DOCUMENT NO.                       | DATE          | NAME                         | CLASS                        | SUBCLASS                | FILING DATE     |
| 75                | A.    | 4,544,037                          | 10/01/1985    | Terry                        | 166                          | 369                     | 02/21/1984      |
|                   | В.    | 4,558,744                          | 12/17/1985    | Gibb                         | 166                          | 335                     | 09/13/1983      |
| $\sqcap$          | C.    | 4,565,252                          | 01/21/1986    | Campbell et al.              | 175                          | 269                     | 03/08/1984      |
| $\sqcap$          | D.    | 4,573,541                          | 03/04/1986    | Josse et al.                 | 175                          | 78                      | 08/09/1984      |
| П                 | Ē.    | 4,599,172                          | 07/08/1986    | Gardes                       | 210                          | 314                     | 12/24/1984      |
| $\prod$           | F.    | 4,600,061                          | 07/15/1986    | Richards                     | 175                          | 62                      | 06/08/1984      |
| $\top$            | G.    | 4,605,076                          | 08/12/1986    | Goodhart                     | 175                          | 61                      | 08/03/1984      |
| $\Box$            | Н.    | 4,611,855                          | 09/16/1986    | Richards                     | 299                          | 2                       | 05/11/1984      |
| 11                | I.    | 4,618,009                          | 10/21/1986    | Carter et al.                | 175                          | 267                     | 08/08/1984      |
| П                 | J.    | 4,638,949                          | 01/27/1987    | Mancel                       | 239                          | 307                     | 04/26/1984      |
| H                 | K.    | 4,646,836                          | 03/03/1987    | Goodhart                     | 166                          | 303                     | 12/20/1984      |
| H                 | L.    | 4,674,579                          | 06/23/1987    | Geller et al.                | 175                          | 45                      | 03/07/1985      |
| H                 | M.    | 4,702,314                          | 10/27/1987    | Huang et al.                 | 166                          | 245                     | 03/03/1986      |
| H                 | N.    | 4,705,431                          | 11/10/1987    | Gadelle et al.               | 405                          | 267                     | 12/20/1984      |
|                   | 0.    | 4,715,440                          | 12/29/1987    | Boxell et al.                | 166                          | 100                     | 07/14/1986      |
| H                 | Ρ.    | 4,754,819                          | 07/05/1988    | Dellinger                    | 175                          | 61                      | 03/11/1987      |
| H                 | Q.    | 4,756,367                          | 07/12/1988    | Puri et al.                  | 166                          | 263                     | 04/28/1987      |
| H                 | R.    | 4,763,734                          | 08/16/1988    | Dickinson et al.             | 175                          | 61                      | 12/23/1985      |
| $\dagger \dagger$ | S.    | 4,773,488                          | 09/27/1988    | Bell et al.                  | 175                          | 61                      | 08/08/1984      |
| $\dagger \dagger$ | T.    | 4,830,105                          | 05/16/1989    | Petermann                    | . 166                        | 241                     | 02/08/1988      |
| H                 | U.    | 4,836,611                          | 06/06/1989    | El-Saie                      | 299                          | 7                       | 05/09/1988      |
| $\parallel$       | V.    | 4,842,081                          | 06/27/1989    | Parant                       | 175                          | 23                      | 05/18/1988      |
| $\forall$         | W.    | 4,844,182                          | 07/04/1989    | Tolle                        | 175                          | 215                     | 06/07/1988      |
| $\forall \exists$ | X.    | 4,852,666                          | 08/01/1989    | Brunet et al.                | 175                          | 61                      | 04/07/1988      |
| +                 | Y.    | 4,883,122                          | 11/28/1989    | Puri et al.                  | 166                          | 248                     | 08/22/1990      |
| +                 | Z.    | 4,978,172                          | 12/18/1990    | Schwoebel et al.             | 299                          | 12                      | 10/26/1989      |
| ps                | AA.   | 5,016,710                          | 05/21/1991    | Renard et al.                | 166                          | 245                     | 06/26/1987      |
| ZZI<br>EXA        | MIN   |                                    | P             | DATE                         | CONSIDERED 8/19/04/          | 1                       | <u> </u>        |
| XA                | MINE  | R: Initial if citation             | considered, w | hether or not citation is    | -/ -/ /                      | MPEP § 609. E           | Praw line throu |

|          | )-144 |                                   | Citotion   | Applicatio<br>Unassig |               | Applicant(s) Joseph A. Zuj                  | panick  |  |  |  |
|----------|-------|-----------------------------------|------------|-----------------------|---------------|---|---|--|--|--|
|          | ntori | nation Disclosu<br>in an Applicat |            | Docket Nu<br>067083.0 |               | Group Art Unit<br>Unassigned                | Filing Date<br>December   | 31, 2003                                     |  |  |
|          |       |                                   |            | U.S. PATEN            | T DOCUM       | ENTS  |   |  |  |  |
|          |       | DOCUMENT NO.                      | DATE       | N                     | IAME          | CLASS                                       | SUBCLASS  | FILING DATE                                  |  |  |
| 797      | A.    | 5,035,605                         | 07/30/1991 | Dinerman et           | al.           | 481   | 018   | 02/16/1990                                   |  |  |
| 1        | B.    | 5,036,921                         | 08/06/1991 | Pittard et al.        |               | 166   | 298   | 06/28/1990                                   |  |  |
|          | C.    | 5,074,360                         | 12/24/1991 | Guinn                 |               | 166   | 281   | 07/10/1990                                   |  |  |
|          | D.    | 5,074,365                         | 12/24/1991 | Kuckes                |               | 175   | 40  | 09/14/1990                                   |  |  |
|          | E.    | 5,074,366                         | 12/24/1991 | Karlsson et a         |               | 175   | 76  | 12/24/1991                                   |  |  |
| T        | F.    | 5,082,054                         | 01/21/1992 | Kiamanesh             |               | 166   | 248   | 08/22/1990                                   |  |  |
| T        | G.    | 5,111,893                         | 05/12/1992 | Kvello-Aune           |               | 175   | 36       298       06/28/199         36       281       07/10/199         35       40       09/14/199         35       76       12/24/199         36       248       08/22/199         35       258       12/24/199         35       71       04/26/199         35       62       09/24/199         35       50       10/21/199         36       55.8       10/17/199         36       382       08/05/199         30       853.4       02/08/199         39       17       04/29/199 |  |  |  |
|          | Н.    | 5,135,058                         | 08/04/1992 | Millgard et al        | •             | 175   | 71  | 04/26/1990                                   |  |  |
| $\top$   | 1.    | 5,148,875                         | 09/22/1992 | Karlsson et a         |               | 175   | 62  | 09/24/1991                                   |  |  |
| $\vdash$ | J.    | 5,165,491                         | 11/24/1992 | Wilson                |               | 175   | 62  | 04/29/1991                                   |  |  |
| Н        | K.    | 5,168,942                         | 12/08/1992 | Wydrinski             |               | 175   | 50  | 10/21/1991                                   |  |  |
| f        | L.    | 5,174,374                         | 12/29/1992 | Hailey                | <del></del>   | 166   | 55.8  | 10/17/1991                                   |  |  |
| $\vdash$ | M.    | 5,193,620                         | 03/16/1993 | Braddick              |               | 166   | 382   | 08/05/1991                                   |  |  |
| $\vdash$ | N.    | 5,194,859                         | 03/16/1993 | Warren                | Varren 340 8: |   |   | 02/08/1991                                   |  |  |
| H        | Ο.    | 5,197,553                         | 03/30/1993 | Leturno               |               | 175   | 57  | 08/14/1991                                   |  |  |
|          | P.    | 5,197,783                         | 03/30/1993 | Theimer et al         |               | 299   | 17  | 04/29/1991                                   |  |  |
| Н        | Q.    | 5,199,496                         | 04/06/1993 | Redus et al.          |               | 166   | 366   | 10/18/1991                                   |  |  |
| T        | R.    | 5,201,817                         | 04/13/1993 | Hailey                |               | 175   | 269   | 12/27/1991                                   |  |  |
| T        | S.    | 5,217,076                         | 06/08/1993 | Masek                 |               | 166   | 303   | 09/27/1991                                   |  |  |
| T        | T.    | 5,240,350                         | 08/31/1993 | Yamaguchi e           | tal.          | 405   | 143   | 11/07/1991                                   |  |  |
| T        | U.    | 5,242,017                         | 09/07/1993 | Hailey                |               | 166   | 55.8  | 12/27/1991                                   |  |  |
| T        | ٧.    | 5,246,273                         | 09/21/1993 | Rosar                 |               | 299   | 4   | 05/13/1991                                   |  |  |
| T        | W.    | 5,255,741                         | 10/26/1993 | Alexander             |               | 166   | 278   | 12/11/1991                                   |  |  |
| П        | X.    | 5,271,472                         | 12/21/1993 | Leturno               |               | 175   | 107   | 10/14/1992                                   |  |  |
| +        | Y.    | 5,301,760                         | 04/12/1994 | Graham                |               | 175   | 61  | 09/10/1992                                   |  |  |
| ps       | Z.    | 5,363,927                         | 11/15/1994 | Frank                 |               | 175   | 67  | 09/27/1993                                   |  |  |
| XA       | MIN   | K - 1/K-31                        |            | _                     | DATE C        | CONSIDERED                                  | <u> </u>  | <u>.                                    </u> |  |  |
| -V A     | 2     |                                   |            |                       |               | 8/19/04                                     | (DED 6 (A)  |  |  |  |
|          |       |                                   |            |                       |               | n conformance with N<br>m with next communi |   |  |  |  |

| PTC  | )-1449     |                                   |                        |         | plication No.<br>nassigned |         | oplicant(s)<br>oseph A. Zup | oanick               |                           |
|--|------------|-----------------------------------|------------------------|---------|----------------------------|---------|-----------------------------|----------------------|---------------------------|
| lı   | nforn      | nation Disclosu<br>in an Applicat |                        | Do      | ocket Number               | G       | oup Art Unit                | Filing Date December | 31 2003                   |
|  |            |                                   |                        |         | PATENT DOCUM               |         |                             | December             | 31, 2000                  |
|  |            |                                   |                        |         |                            |         |                             | T                    |                           |
| 05   | <b>A</b> . | 5,385,205                         | <b>DATE</b> 01/31/1995 | Haile   | NAME                       |         | CLASS<br>166                | SUBCLASS<br>55.8     | FILING DATE<br>10/04/1993 |
| DP5  |            |                                   | 03/07/1995             | Garde   | <u></u> _                  |         | 175                         | 45                   | 05/21/1993                |
|  | В.         | 5,394,950                         |                        |         |                            |         |                             |                      | l                         |
|  | C.         | 5,402,851                         | 04/04/1995             | Baito   |                            |         | 166                         | 369                  | 05/03/1993                |
|  | D.         | 5,411,082                         | 05/02/1995             | Kenn    | edy                        |         | 166                         | 181                  | 01/26/1994                |
|  | E.         | 5,411,085                         | 05/02/1995             | Moor    | e et al.                   |         | 166                         | 242                  | 11/01/1993                |
|  | F.         | 5,411,104                         | 05/02/1995             | Stanle  | у                          |         | 175                         | 65                   | 02/16/1994                |
|  | G.         | 5,411,105                         | 05/02/1995             | Gray    |                            |         | 175                         | 69                   | 06/14/1994                |
|  | H.         | 5,431,220                         | 07/11/1995             | Lenno   | on et al.                  |         | 166                         | 55.7                 | 03/24/1994                |
| $\vdash$   | l.         | 5,435,400                         | 07/25/1995             | Smith   |                            |         | 175                         | 61                   | 05/25/1994                |
|  | J          | 5,447, 416                        | 09/05/1995             | Wittri  | sch                        |         | 417                         | 442                  | 03/28/1994                |
|  | K.         | 5,450,902                         | 09/19/1995             | Matth   | ews                        | -       | 166                         | 268                  | 05/14/1993                |
| $\vdash$   | L.         | 5,454,419                         | 10/03/1995             | Vloed   | lman                       |         | 166                         | 277                  | 09/19/1994                |
| $\vdash$   | M.         |                                   |                        | Hayes   | et al.                     | 175     |                             | 61                   | 06/11/1993                |
| <del>                                     </del> | N.         | 5,462,116                         | 10/31/1995             | Carro   | 11                         |         | 166                         | 249                  | 10/26/1994                |
| <del>                                     </del> | Ο.         | 5,462,120                         | 10/31/1995             | Gond    | ouin                       |         | 166                         | 380                  | 01/04/1993                |
| $\vdash$   | P.         | 5,469,155                         | 11/21/1995             | Archa   | mbeault et al.             |         | 340                         | 853.4                | 07/11/1994                |
| $\vdash$   | Q.         | 5,477,923                         | 12/26/1995             | Jorda   | n, Jr. et al.              |         | 66                          | 313                  | 01/26/1994                |
| -  | R.         | 5,485,089                         | 01/16/1996             | Kuck    | es                         |         | 324                         | 346                  | 10/08/1993                |
| $H^-$  | S.         | 5,494,121                         | 02/27/1996             | Nack    | erud                       |         | 175                         | 263                  | 11/29/1994                |
|  | T.         | 5,499,687                         | 03/19/1996             | Lee     |                            |         | 175                         | 317                  | 11/18/1991                |
| Н  | U.         | 5,501,273                         | 03/26/1996             | Puri    |                            |         | 166                         | 252.5                | 10/04/1994                |
| $\vdash$   | V.         | 5,501,279                         | 03/26/1996             | Garg    | et al.                     |         | 166                         | 372                  | 01/12/1995                |
| H  | W.         | 5,584,605                         | 12/17/1996             | Beard   | et al.                     | ·       | 405                         | 128                  | 06/29/1995                |
| H  | х          | 5,613,242                         | 03/18/1997             | Oddo    |                            |         | 588                         | 17                   | 12/06/1994                |
| $\vdash \vdash$                                  | Y.         | 5,615,739                         | 04/01/1997             | Dalla   | 5                          |         | 166                         | 306                  | 04/30/1996                |
| -  | Z.         | 5,669,444                         | 09/23/1997             | Riese   | et al.                     |         | 166                         | 263                  | 01/31/1996                |
|  | AA.        | 5,680,901                         | 10/28/1997             | Garde   | es                         |         | 166                         | 313                  | 12/14/1995                |
|  | BB.        | 5,690,390                         | 11/25/1997             | Bithe   | 11                         |         | 299                         | 4                    | 04/19/1996                |
| 085  | CC.        | 5,706,8717                        | 01/13/1998             | Ande    | rson et al.                |         | 141                         | 59                   | 08/15/1995                |
| u  | MIN        | ER ///                            | 7//                    | -       | DATE C                     |         |                             | <del></del>          |                           |
|  |            | Nant                              | 4                      |         |                            | 8       | /19/04                      |                      |                           |
|  |            | R: Initial if citation            |                        |         |                            | n confo | rmance with N               |                      |                           |
| citat  | ion if r   | ot in conformance and             | d not considere        | d. Inch | ide copy of this for       | rm with | next communi                | cation to the app    | licant.                   |

|          | )-1449 |                                   | Citation       | Application No<br>Unassigned |  | Applicant(s)<br>Joseph A. Zur | panick                           |               |  |
|----------|--------|-----------------------------------|----------------|------------------------------|--|-------------------------------|----------------------------------|---------------|--|
| - 11     | ntorn  | nation Disclosu<br>in an Applicat |                | Docket Number 067083.028     | 7  | Group Art Unit<br>Unassigned  | Filing Date<br>December          | 31, 2003      |  |
|          |        | DOGUMENT NO                       | DATE           | U.S. PATENT C                |  | CLASS                         | SUBCLASS                         | FILING DAT    |  |
| 72       | A.     | 5,720,356                         | 02/24/1998     | Gardes                       | <u>.                                    </u> | 175                           | 62                               | 02/01/1996    |  |
| 12       | В.     | 5,727,629                         | 03/17/1998     | Blizzard, Jr. et al          | l.   | 166                           | 298                              | 01/24/1996    |  |
| ╁        | C.     | 5,735,350                         | 04/07/1998     | Longbottom et a              |  | 166                           | 313                              | 10/15/1996    |  |
| +        | D.     | 5,771,976                         | 06/30/1998     | Talley                       | <del> </del>                                 | 166                           | 370                              | 07/19/1996    |  |
| ╁        | E.     | 5,785,133                         | 07/28/1998     | Murray et al.                |  | 175                           | 61                               | 08/29/1995    |  |
| $\vdash$ | F.     | 5,832,958                         | 11/10/1998     | Cheng                        |  | 137                           | 625.41                           | 09/04/1997    |  |
| -        | G.     | 5,853,054                         | 12/29/1998     | McGarian et al.              |  | 175                           | 267                              | 07/22/1997    |  |
| -        | Н.     | 5,853,056                         | 12/29/1998     | Landers                      |  | 175                           | 424                              | 04/01/1996    |  |
|          | 1.     | 5,863,283                         | 01/26/1999     | Gardes                       | ·  | 588                           |                                  |               |  |
|          | J.     | 5,868,202                         | 02/09/1999     | Hsu                          | <del></del>                                  | 166                           |                                  |               |  |
|          | K.     | 5,868,210                         | 02/09/1999     | Johnson et al.               |  | 175                           | 40                               | 05/01/1996    |  |
|          | L.     | 5,879,057                         | 03/09/1999     | Schwoebel et al.             |  | 299                           | 17                               | 11/12/1996    |  |
|          | M.     | 5,884,704                         | 03/23/1999     | Longbottom et a              | l.   | 16                            | 313                              | 08/20/1997    |  |
|          | N.     | 5,917,325                         | 06/29/1999     | Smith                        |  | 324                           | 326                              | 08/25/1997    |  |
|          | Ο.     | 5,934,390                         | 08/10/1999     | Uthe                         |  | 175                           | 67                               | 12/23/1997    |  |
|          | P.     | 5,957,539                         | 09/28/1999     | Durup et al.                 |  | 299                           | 4                                | 07/17/1997    |  |
|          | Q.     | 6,012,520                         | 01/11/2000     | Yu et al.                    |  | 166                           | 245                              | 01/04/1999    |  |
|          | R.     | 6,024,171                         | 02/15/2000     | Montgomery et a              | ıl.  | 166                           | 308                              | 03/12/1998    |  |
|          | S.     | 6,050,335                         | 04/18/2000     | Parsons                      |  | 166                           | 272.3                            | 10/26/1998    |  |
|          | T      | 6,056,059                         | 05/02/2000     | Ohmer                        |  | 166                           | 313                              | 07/24/1997    |  |
|          | U.     | 6,065,550                         | 05/23/2000     | Gardes                       |  | 175                           | 62                               | 02/19/1998    |  |
|          | V.     | 6,119,771                         | 09/19/2000     | Gano et al.                  | •  | 166                           | 50                               | 01/27/1998    |  |
|          | W.     | 6,135,208                         | 10/24/2000     | Gano et al.                  |  | 166                           | 313                              | 05/28/1998    |  |
|          | X.     | 6,280,000                         | 08/28/2001     | Zupanick                     | (0103)                                       | 299                           | 12                               | 11/20/1998    |  |
|          | Y.     | 6,349,769 B1                      | 02/26/2002     | Ohmer                        |  | 166                           | 313                              | 03/03/2000    |  |
|          | Z.     | 6,357,523 B1                      | 03/19/02       | Zupanick                     | (0104)                                       | 166                           | 52                               | 11/19/1999    |  |
|          | AA.    | 6,425,448 B1                      | 07/30/02       | Zupanick et al.              | (0113)                                       | 175                           | 61                               | 01/30/2001    |  |
| 95       | 88.    | 6,439,320                         | 08/27/2002     | Zupanick                     | (0139  | 166                           | 313                              | 03/03/2000    |  |
|          | MINI   | Xamly.                            | Ay C           |                              |  | 19/94                         |                                  |               |  |
| EXA      | MINE   | 17 1                              | considered, wl | nether or not citat          | ion is in conf                               | 19/94<br>Formance with A      | MPEP § 609. It cation to the app | Draw line the |  |

|                   | -1449 |                                   | ro Citation    | Application No.<br>Unassigned |           | Applicant(s) Joseph A. Zu    | ıpanick                 |          |      |
|-------------------|-------|-----------------------------------|----------------|-------------------------------|-----------|------------------------------|-------------------------|----------|------|
| ın                | ntorr | nation Disclosu<br>in an Applicat |                | Docket Number<br>067083.0287  |           | Group Art Unit<br>Unassigned | Filing Date<br>December | 31, 2003 |      |
|                   |       |                                   |                | U.S. PATENT DOO               | UMENTS    |                              |                         |          |      |
|                   |       | DOCUMENT NO.                      | DATE           | NAME                          |           | CLASS                        | SUBCLASS                | FILING   | DATE |
| DAS               | A.    | 6,450,256                         | 09/17/2002     | Mones                         |           | 166                          | 250.01                  | 06/06/2  | 001  |
| 1                 | В.    | 6,457,540                         | 10/01/2002     | Gardes                        |           | 175                          | 62                      | 01/29/2  | 001  |
| $\top$            | C.    | 6,478,885                         | 11/12/2002     | Zupanick                      | (0137)    | 166                          | 50                      | 02/20/2  | 001  |
| 11                | D.    | 6,561,288                         | 05/13/03       | Zupanick                      | (0140)    |                              |                         |          |      |
| +                 | E.    | 6,575,235                         | 06/10/2003     | Zupanick                      | (0194)    |                              |                         |          |      |
|                   | F.    | 6,604,580                         | 08/12/2003     | Zupanick                      | (0193)    |                              |                         | 1        |      |
| 019               | G.    | 6,604,910                         | 08/12/2003     | Zupanick                      | (0130)    |                              | <del></del>             |          |      |
| 1/2               | H.    |                                   |                | -                             |           | <del> </del>                 |                         |          |      |
|                   | Ι.    |                                   | 1              |                               |           |                              |                         | <b>,</b> |      |
| $\dashv$          | J.    |                                   | <del> </del>   | <del></del>                   |           |                              |                         | <u> </u> |      |
|                   |       | DOCUMENT NO.                      | DATE           | FOREIGN PATENT D              | -         | CLASS                        | SUBCLASS                | TRANSI   | ATIO |
| DP3               | K.    | 94/21889                          | 09/29/1994     | wo                            | •         | E21B                         | 43/24                   | X        | 1    |
| 7                 | L.    | 0 875 661 A1                      | 11/04/1998     | EP                            |           | E21B                         | 43/30                   | х        | 1    |
| H                 | M.    | 0 952 300 A1                      | 10/27/1999     | EP                            |           | E21B                         | 7/12                    | X        | 1    |
| +                 | HN    | 00/31376                          | 06/02/00       | wo                            |           | E21C                         | 41/00                   | Х        | 1    |
| ++                | Ο.    | 2 347 157 A                       | 08/30/2000     | UK                            |           | E21B                         | 43/00                   |          | X    |
| $\forall$         | P.    | WO 99/60248                       | 11/25/1999     | PCT                           |           | E21B                         | 43/30                   | X        | 1    |
| $\dashv \uparrow$ | Q.    | 964,503                           | 04/27/1944     | France                        |           | 8                            | 1                       | -        | x    |
| +                 | R.    | WO 00/79099                       | 12/28/2000     | PCT                           |           | E21B                         | 43/25                   | X        |      |
| · 1               | S.    | WO 02/059455                      | 08/01/2002     | PCT                           |           | E21B                         | 43/00                   | Х        |      |
| 795               |       | <del></del>                       |                |                               |           |                              |                         |          |      |
| P5                |       |                                   |                | NON-PATENT DO                 | CUMENTS   | ;                            |                         |          |      |
| P5                |       | 0.000                             | IMENT (Includ  |                               |           |                              | pe)                     |          | TE   |
| PS<br>EXA         | MIN   | DOCU<br>ER /                      | JMENT (Includi | ing Author, Title, So         | urce, and |                              | es)                     | DA       | TE_  |

|         | -1449 |  | 014 - 41                         | Application No. Unassigned                               |           | oplicant(s)<br>oseph A. Zu  | panick               |                      |        |  |  |
|---------|-------|--|----------------------------------|--|-----------|-----------------------------|----------------------|----------------------|--------|--|--|
| Ir      | itorn | nation Disclosur<br>in an Applicati  | -                                | Docket Number<br>067083.0287                             |           | oup Art Unit<br>nassigned   | Filing Date December | 31, 2003             |        |  |  |
|         |       |  |                                  | U.S. PATENT DOCUME                                       | NTS       |                             |                      |                      |        |  |  |
|         | Α.    | DOCUMENT NO.   | DATE                             | NAME   |           | CLASS                       | SUBCLASS             | FILING               | DATE   |  |  |
|         |       | 1  | F                                | OREIGN PATENT DOCU                                       | MENTS     | <u> </u>                    | <u> </u>             | <u></u>              |        |  |  |
|         |       | DOCUMENT NO.   | DATE                             | COUNTRY  |           | CLASS                       | SUBCLASS             | TRANSL<br>YES        | ATION  |  |  |
|         | В.    | DOCOMENT NO.   | DAIL                             | COUNTRY  |           | 02.00                       | 000000               |                      |        |  |  |
|         |       |  |                                  | NON-PATENT DOCUME  | NTS       |                             |                      |                      |        |  |  |
|         |       | DOCU   | MENT (Includir                   | ig Author, Title, Source,                                | and Pe    | ertinent Page               | s)                   | DA                   | ΓE     |  |  |
| 793     | C.    | Gopal Ramaswamy, 'and 52.  | 'Production His                  | tory Provides CBM Insigh                                 | its," Oi  | il & Gas Journ              | nal, pages 49, 50    | 04/02/20             | 01     |  |  |
| 1       | D.    | Weiguo Chi and Luwu Yang, "Feasibility of Coalbed Methane Exploitation in China," Horizontal Well Technology, page 74  09/2001 |                                  |  |           |                             |                      |                      |        |  |  |
| $\prod$ | E.    | Nackerud Product De  | scription, Harve                 | est Tool Company, LLC,                                   | page.     | -                           |                      | Received<br>09/27/20 |        |  |  |
|         | F.    | Gopal Ramaswamy, '<br>Pages 71 & 73  | 'Advanced Key                    | for Coalbed Methane," T                                  | he Am     | erican Oil &                | Gas Reporter,        | 10/2001              |        |  |  |
| $\prod$ | G.    | Joseph C. Stevens, He Institute, pages 1-10 (  |                                  | cations For Coal Bed Meth                                | ane Re    | covery, Strate              | egic Research        | 03/25/20             | 02     |  |  |
|         | H.    | R.J. "Bob" Stayton, "  | Horizontal Wel                   | ls Boost CBM Recovery",<br>Dil & Gas Reporter, pp. 71    |           | al Report: Ho               | rizontal &           | 08/2002              |        |  |  |
| 11      | ı.    | Susan Eaton, "Revers   | al of Fortune",                  | New Technology Magazir                                   | ne, pp 3  | 30-31                       | <del></del>          | 09/2002              |        |  |  |
|         | J.    | • •  |                                  | s to Come", New Technol                                  |           | •,                          |                      | 09/2002              |        |  |  |
|         | K.    | Documents Received   | from Third Par                   | ty, Great Lakes Directiona                               | ıl Drilli | ing, Inc., (12 <sub>1</sub> | pages)               | Received<br>09/12/02 |        |  |  |
| $\prod$ | L.    | Robert W. Taylor and Efficiencies in Middle  |                                  | ll, "Multilateral Technologas Journal, pp. 76-80         | gies Ind  | crease Operati              | onal                 | 03/16/19             | 98     |  |  |
| 1       | M.    | Adam Pasiczynk, "Ev  | olution Simplif                  | ies Multilateral Wells", D                               | irection  | nal Drilling, p             | p. 53-55             | 06/2000              |        |  |  |
|         | N.    | Steven S. Bell, "Mult  | ilateral System                  | with Full Re-Entry Access                                | Instal    | led", World C               | oil, p. 29           | 06/1996              |        |  |  |
| W       | 0.    | P. Jackson and S. Ker<br>Mining, Energy Conv   | shaw, "Reducir<br>ers. Mgmt, Vol | ng Long Term Methane Er<br>237, Nos 6-8, pp. 801-806     | nission   | s Resulting fr              | om Coal              | 1996                 |        |  |  |
| EXA     | MIN   | ER /   |                                  | DATE CO  | DNSID     | ERED                        |                      |                      | •      |  |  |
|         |       |  |                                  | ether or not citation is in<br>Include copy of this form |           |                             |                      |                      | hrough |  |  |

|           | 0-1449       |  | 0'4 - 4'         | Application No.<br>Unassigned                          | Applicant(s)  Joseph A. Z         | upanick              |          |            |  |
|-----------|--------------|--|------------------|--|-----------------------------------|----------------------|----------|------------|--|
|           | Inforr       | nation Disclosu<br>in an Applicati         |                  | Docket Number<br>067083.0287                           | Group Art Unit<br>Unassigned      |                      | 31, 2003 |            |  |
|           |              |  |                  | U.S. PATENT DOCUM                                      | MENTS                             |                      |          |            |  |
|           |              | DOCUMENT NO.                               | DATE             | NAME   | CLASS                             | SUBCLASS             | FILING   | DATE       |  |
| -         | A.           |  |                  | OREIGN PATENT DOC                                      | UMENTS                            |                      | <u></u>  |            |  |
| $\vdash$  | 1            | Τ  |                  |  |                                   | - <u> </u>           | TRANSL   | ATION      |  |
| <u> </u>  | B.           | DOCUMENT NO.                               | DATE             | COUNTRY  | CLASS                             | SUBCLASS             | YES      | NO         |  |
| _         | В.           | <u> </u>                                   |                  | NON-PATENT DOCUM                                       | JENTS                             |                      |          | l          |  |
| ļ         |              |  |                  |  | MENTO                             |                      |          |            |  |
|           |              | DOCI                                       | MENT (Includi    | ng Author, Title, Sourc                                | e and Pertinent Par               | 185)                 | DA       | TF         |  |
| OP;       | C.           | Gardes, US. Patent A                       | pplication Pub   | lication No. US 2003/00                                | 062198 A1 "Method                 | and System for       | 04/03/20 |            |  |
| 11/       |              |  |                  | ng and Completing Geor                                 |                                   | and and              | 06/20/20 | 002        |  |
|           | D.           | Apparatus for Hydro                        | carbon Subterra  | inean Recover"   |                                   |                      | 00/20/20 | J02        |  |
|           | E.           | Zupanick, U.S. Pater                       | t Application S  | erial No. 09/788,897, en<br>om The Surface," (0670     | titled "Method and S<br>083.0138) | ystem for            | 02/20/20 | )01        |  |
|           | F.           | Zupanick, U.S. Pater                       | t Application S  | erial No. 10/046,001, en<br>Subterranean Zones," (00   | titled 'Method and S              | System for           | 10/19/20 | 10/19/2001 |  |
|           | G.           | Zupanick, U.S. Pater                       | t Application S  | erial No. 09/774,996, en                               | titled "Method and S              | ystem for            | 01/30/20 | 001        |  |
| $\vdash$  | Н.           |  |                  | m a Limited Surface Are<br>lining Engineering Hand     |                                   | lining,              | 1992     |            |  |
| $\square$ | ↓            |  |                  | p 1946-1950, 2nd Editio                                |                                   | <del> </del>         | 10/1000  |            |  |
|           | 1.           |  |                  | I Jensen, and Morley Fra<br>al benefits", Drilling Tec |                                   | chnique lowers       | 10/1999  |            |  |
| $\Box$    | J.           | Pascal Breant, "Des                        |                  | Chez Total : les puits m                               |                                   | ploration            | 01/1999  |            |  |
| H         | K.           | Production, pp. 1-5 Abstract of AU 8549    | 964              |  |                                   |                      | 1987     |            |  |
| $\sqcup$  | <del> </del> |  | 23 117 11 E 311  | 100 1 1 1 17 17 17                                     | 6011.1                            | D 316                | 1050     |            |  |
|           | L.           | McCray and Cole, "C                        | Dil Well Drillin | g and Technology," Uni                                 | versity of Oktanoma               | Press, pp 313-       | 1959     |            |  |
| П         | M.           |  | , "Modern Petr   | oleum;" PennWell Book                                  | s, pp 106-108.                    |                      | 1978     |            |  |
| H         | N.           |  |                  | he Physical and Mechan                                 |                                   |                      | 1988     |            |  |
|           |              | Implications for Coal Association of Geolo |                  | Well Completion and Pr                                 | oduction, Rocky Mo                | untain               |          |            |  |
| PPS       | 0            |  |                  | Hole Drilling", (1 page)                               |                                   |                      | 04/1999  | 1          |  |
| EX        | AMIN         | ER //                                      | 101              | DATE   | CONSIDERED                        |                      | 1        |            |  |
|           |              | Want                                       | 1                |  | 8/19/04                           |                      |          |            |  |
|           |              |  |                  | ether or not citation is                               |                                   |                      |          | through    |  |
| Cita      | ition ii i   | not in conformance and                     | i not considered | <ol> <li>Include copy of this for</li> </ol>           | orm with next comm                | inication to the app | nicant.  |            |  |

|                   | -1449<br>Vm form | nation Disclosure Cit | ation     |                       | ication No.<br>ssigned  | Applic<br>Jose | ant(s)<br>ph A. Zupa | nick                       |                |
|-------------------|------------------|-----------------------|-----------|-----------------------|-------------------------|----------------|----------------------|----------------------------|----------------|
|                   | 111011           | in an Application     |           | 0670                  | et Number<br>083.0287   | Unas           | Art Unit<br>signed   | Filing Date<br>December 31 | , 2003         |
| T                 |                  | DOCUMENT NO.          | DAT       |                       | TENT DOCUMENT<br>NAME   | <u>s</u>       | CLASS                | SUBCLASS                   | FILING<br>DATE |
| 10                | A.               | 1,520,737             | 12/30/192 | 24                    | Wright                  |                |                      |                            | 04/26/1924     |
| <u>~</u>          | B.               | 3,907,045             | 09/23/197 | 5                     | Dahl et al.             |                | 175                  | 45                         | 11/30/1976     |
| $\dagger$         | C.               | 4,303,127             | 12/01/198 | 1                     | Freel et al             |                | 166                  | 266                        | 02/11/1980     |
| H                 | D.               | 4,437,706             | 03/20/198 | 34                    | Johnson                 |                | 299                  | 7                          | 08/30/1981     |
| H                 | E.               | 5,226,495             | 07/13/199 | )3                    | Jennings, Jr.           |                | 166                  | 278                        | 05/18/1992     |
|                   | F.               | 5,242,025             | 09/07/199 | )3                    | Neill et al.            |                | 175                  | 26                         | 06/30/1992     |
| +                 | G.               | 5,613,242             | 04/18/199 | 7                     | Oddo                    |                | 588                  | 17                         | 12/06/1994     |
| +                 | H.               | 5,938,004             | 08/17/199 | 9                     | Roberts et al.          |                | 198                  | 812                        | 02/14/1997     |
| $\vdash$          | I.               | 5,971,074             | 10/26/199 | 9                     | Longbottom et al.       |                | 166                  | 313                        | 07/01/0998     |
| +                 | J.               | 6,015,012             | 01/18/200 | 00                    | Reddick                 |                | 166                  | 313                        | 08/29/1997     |
| $\dagger$         | K.               | 6,209,636             | 04/03/200 | )1                    | Roberts et al.          |                | 166                  | 117.6                      | 03/07/1999     |
| 十                 | L.               | 6,439,320             | 08/27/200 | )2                    | Zupanick                |                | 175                  | 161                        | 02/20/2001     |
| 十                 | M.               | 6,566,649             | 05/20/200 | )3                    | Mickael                 |                | 250                  | 269.3                      | 05/26/2000     |
| $\dagger$         | N.               | 6,571,888             | 06/03/200 | )3                    | Comeau et al.           |                | 175                  | 61                         | 05/14/200      |
| +                 | O.               | 6,577,129             | 06/10/200 | )3                    | Thompson et al.         |                | 324                  | 338                        | 01/19/2002     |
| +                 | P.               | 6,585,061             | 07/01/200 | 2003 Radzinski et al. | 175                     | 45             | 10/15/200            |                            |                |
| H                 | Q.               | 6,590,202             | 07/08/200 | )3                    | Mickael                 |                | 250                  | 269.2                      | 05/08/2001     |
| H                 | R.               | 6,591,903             | 07/15/200 | )3                    | Ingle et al.            |                | 166                  | 50                         | 12/06/2001     |
| H                 | S.               | 6,607,042             | 08/19/200 | )3                    | Hoyer et al.            |                | 175                  | 38                         | 05/17/2001     |
| $\vdash$          | T.               | 6,636,159             | 10/21/200 | )3                    | Winnacker               |                | 340                  | 854.3                      | 06/25/2000     |
| $\forall$         | U.               | 6,639,210             | 10/28/200 | )3                    | Odom et al.             | •              | 250                  | 269.6                      | 03/14/2001     |
| H                 | v.               | 6,646,411             | 11/11/200 | )3                    | Thompson et al.         |                | 324                  | 338                        | 01/19/2002     |
| H                 | W.               | 6,450,256             | 09/17/200 | )2                    | Mones                   |                | 166                  | 250.01                     | 06/06/2001     |
| $\dagger \dagger$ | X.               | 6,653,839             | 11/25/200 | )3                    | Yuratich et al.         | <u>.</u>       | 324                  | 355                        | 12/28/2001     |
| $\dagger \dagger$ | Υ.               | US-2002/0074120-A1    | 06/20/200 | )2                    | Scott                   |                | 166                  | 313                        | 12/15/2000     |
| $\dag \uparrow$   | Z.               | US2003/0075334        | 04/24/200 | )3                    | Haugen et al.           |                | 166                  | 313                        | 09/16/2002     |
| H                 | AA.              | US-2002/0050358-A1    | 05/02/200 | )2                    | Algeroy et al.          |                | 166                  | 313                        | 09/27/200      |
| $\dagger \dagger$ | BB.              | US-2003-0066686-A1    | 04/10/200 | )3                    | Conn                    |                | 175                  | 57                         | 10/04/2002     |
| 75                | CC.              | US2003/0062198        | 04/03/200 | )3                    | Gardes                  |                | 175                  | 61                         | 09/30/2002     |
| ᅼ                 |                  |                       | N         | ON-P                  | ATENT DOCUMENT          | rs .           |                      |                            | YES N          |
|                   |                  | DOCUM                 |           |                       | thor, Title, Source, an |                | nent Pages)          |                            | DATE           |
| XA                | MINE             | Word Post             | L         |                       | DATE CON                | SIDE           | RED/<br>19/04        |                            |                |

| PTO-1449 Information Disclosure Citation in an Application |  |   |   |         | ication No.<br>ssigned | Applicant(s) Joseph A. Zupanick |          |                                    |                                  |                            | 2 of 12 |  |
|--|--|---|---|---------|------------------------|---------------------------------|----------|------------------------------------|----------------------------------|----------------------------|---------|--|
|  |  |   |   |         | tet Number<br>083.0287 | Group Art Unit<br>Unassigned    |          |                                    | Filing Date<br>December 31, 2003 |                            |         |  |
|  |  |   | τ   | J.S. PA | TENT DOCUMENT          | s                               |          |                                    |                                  |                            |         |  |
|  | DOCUMENT NO. DATE  |   |   | TE NAME |                        |                                 | CLASS    |                                    | SUBCLASS                         | FILING<br>DATE             |         |  |
|  |  |   | FOI   | REIGN   | PATENT DOCUME          | ENTS                            |          |                                    |                                  |                            |         |  |
|  | DOCUMENT NO. DATE  |   | COUNTRY   |         |                        | CLAS<br>S                       | SUBCLASS |                                    | TRANSL<br>YES                    | ATION<br>NO                |         |  |
| P75  | A.   | GB 2 297 988  | 8/21/1996   |         | UK                     |                                 | E21B     | 7/08                               |                                  | X                          |         |  |
| "/   | B.   | WO 02/18738   | U-1448078-A1 03/25/1987   |         | PCT                    |                                 |          | 7/04                               |                                  | X                          |         |  |
| ++   | C.   | SU-1448078-A1   |   |         | 7 UK                   |                                 |          | F 5/00-F 7/00                      |                                  |                            | x       |  |
| +  | D.   | SU-1770570-A1   |   |         | UK                     | E                               |          |                                    | /00                              |                            | X       |  |
| DPS  | E.   | SU-750108   | 06/26/1975  |         | UK                     |                                 | E21      | C 45/00                            |                                  |                            | х       |  |
|  | DOCUMENT (Including Author, Title, Source, and Pertinent Pages)  Notification of Transmitted of the International Search Pagest on the Declaration (PCT Rule |   |   |         |                        |                                 |          |                                    |                                  |                            | DATE    |  |
| PPS  | F.   | Notification of Transmittal of the International Search Report or the Declaration (PCT Rule 44.1) mailed November 6, 2003 (8 pages) re International Application No. PCT/US 03/21626  |   |         |                        |                                 |          |                                    |                                  | 07/11/2003                 |         |  |
| ,  | G.   |   |   |         |                        |                                 |          |                                    |                                  | Filed<br>27 07/11/2003     |         |  |
| ++   | H.   | Notification of Transmittal of the International Search Report or the Declaration (PCT Rule   |   |         |                        |                                 |          |                                    |                                  |                            | Filed   |  |
| +  | ī.   | 44.1) mailed November 4, 2003 (7 pages) re International Application No. PCT/US 03/21628  Notification of Transmittal of the International Search Report or the Declaration (PCT Rule   |   |         |                        |                                 |          |                                    |                                  | 07/11/2003<br>Filed        |         |  |
|  | 1.   | 44.1) mailed Decemb   | cember 5, 2003 (8 pages) re International Application No. PCT/US 03/21750   |         |                        |                                 |          |                                    | S 03/21750                       | 07/11/2003                 |         |  |
| $\forall$  | J. Examiner of Record, Office Action Response regarding the Interpretation of the thr  |   |   |         |                        |                                 |          |                                    |                                  | Date Unknown               |         |  |
| $\parallel$  | K.   | 303-339, Hydrocarbons from Coal, Published by the American Association of Petroleum   |   |         |                        |                                 |          |                                    |                                  |                            |         |  |
| $\parallel$  | L.   | Geologists   B. Gotas et al., "Performance of Openhole Completed and Cased Horizontal/Undulating Wells in Thin-Bedded, Tight Sand Gas Reservoirs," Society of Petroleum Engineers, Inc., October 17 through October 19, 2000, pp. 1-7 |   |         |                        |                                 |          |                                    |                                  |                            |         |  |
| 7  | M.   | R. Sharma, et al., "M. Petroleum Technolog  | R. Sharma, et al., "Modelling of Undulating Wellbore Trajectories, The Journal of Canadian Petroleum Technology", XP-002261908, October 18-20, 1993, pp 16-24 |         |                        |                                 |          |                                    |                                  | 10/18/2000 -<br>10/20/2000 |         |  |
| <b>IP</b> 5  | N. E. F. Balbinski et al., "Prediction of Offshore Viscous Oil Field Performance Symposium on Improved Oil Recovery, August 18-20 1999, pp. 1-10             |   |   |         |                        |                                 |          | Formance, "European   08/18/1999 - |                                  |                            |         |  |
| EXA  | MINER  | milled  | 6   |         | DATE CO                | NSIDE:                          | RED      |                                    |                                  |                            |         |  |
| EXA  | MINER:   | Initial if citation consi-<br>in conformance and not c  | dered, whet   | her or  | not citation is in co  | onforma                         | nce with | MP                                 | EP § 609. I                      | Draw line                  | throug  |  |